

Notice of Allowability

Application No.

10/562,900

Examiner

BINH Q. TRAN

Applicant(s)

ASANUMA, TAKAMITSU

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 12/29/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.



BINH Q. TRAN
Primary Examiner
Art Unit: 3748

DETAILED ACTION

Receipt and entry of Applicant's Preliminary Amendment dated December 29, 2005 is acknowledged.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Linda Saltiel (Reg. No. 51,122) on September 01, 2006. During telephone conversation with Ms. Saltiel, agreement was reached to amend Claim 10.

The application has been amended as follows:

IN THE CLAIMS:

- **Claim 10 has been amended as below.**
- In claim 10, line 13, the phase " oxid " has been changed to --oxide --.
- In claim 10, line 13, ---- and a concentration of hydrogen sulfide. --- has been inserted after "*obtaining the concentration of sulfur oxide*".

The above changes to Claim 10 has been made in order to correct indefinite claim language.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: The prior art fails to disclose or render obvious the claimed combination including a concentration detector whose detection state can be changed between a first detection state in which a total concentration of sulfur oxide and hydrogen sulfide in exhaust gas that has passed through the NOx storage reduction catalyst is detected, and a second detection state in which a concentration of the sulfur oxide in the exhaust gas is detected; and a controller which performs a poisoning recovery process that controls an operating state of the internal combustion engine such that the sulfur oxide is released from the NOx storage reduction catalyst, wherein the detection state of the concentration detector is alternately changed between the first detection state and the second detection state after the concentration detector which is in the second detection state detects release of the sulfur oxide from the NOx storage reduction catalyst during the poisoning recovery process performed by the controller, whereby the concentration detector obtains the concentration of the sulfur oxide and a concentration of the hydrogen sulfide.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents:

Yamaguchi et al. (Pat. No. 6922988), Strehlau et al. (Pat. No. 6145303), Hertzberg (Pat. No. 6843052), Bartley et al. (Pat. No. 6348177), and Hiroaki et al. (Pat. No. JP 2002309929 A) all discloses an exhaust gas purification for use with an internal combustion engine.

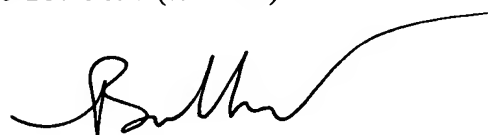
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (571) 272-4865. The examiner can normally be reached on Monday-Friday from 8:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reach on (571) 272-4859. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BT
September 01, 2006



Binh Q. Tran
Patent Examiner
Art Unit 3748